7052.0240 WHOLE EFFLUENT TOXICITY.

Subpart 1. **Applicability.** The agency must evaluate and apply whole efflue¹¹, toxicity (WET) as WQBELs and permit conditions through the following procedures and conditions:

A. no effluent shall exceed 1.0 acute toxic unit (TUa) unless a demonstration is provided under part 7052.0210, subpart 1, that 0.3 TUa can be met at the edge of an approved acute mixing zone; and

B. no effluent shall exceed 1.0 chronic toxic unit (TUc) in the receiving water at the edge of an approved mixing zone under part 7052 0210, subpart 1.

Subp. 2. Acute and chronic WQBELs. WQBELs determined under subpart 6 must comply with subpart 1, items A and B, except if the agency determines on an individual permit basis that chemical-specific limitations are sufficient to ensure compliance with subpart 1, items A and B.

Subp. 3. Permit conditions. Where the agency determines according to subpart 5 that the WET of an effluent is or may be discharged at a level that will cause, have the reasonable potential to cause, or contribute to an excursion above any standard specified in subpart 1 or 2, the following permit conditions must be established:

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A. a WQBEL developed under subpart 6;

B. a requirement that a toxicity reduction evaluation be conducted where valid toxicity usual indicate exceedance of a WIT limitation and when the duration, magnitude, and frequency of exceedance is sufficient to allow completion of a toxic reduction evaluation to determine the pollutant or pollutants causing the exceedance;

C. for any effluent limitation for WET established under subpart 6, a schedule of compliance consistent with part 7052.0260; and

D. a requirement that all WET tests must be conducted according to the methods established in Code of Federal Regulations, title 40, part 136.

Subp. 4. Insufficient information. If the agency determines that it lacks sufficient information to establish under subpart 5 whether the WET of an effluent is or may be discharged at a level that will cause, have the reasonable potential to cause, or contribute to an excursion above any standard specified in subpart 1 or 2, the following permit conditions must be established:

A. WET testing requirements to generate the data needed to characterize the toxicity of the effluent to aquatic life; and

B. a permit reopener clause to establish WET limitations if any toxicity testing data required under item A and subpart 5 indicate that the WET or an effluent is or may be discharged at a level that will cause, have the reasonable potential to cause, or contribute to an excursion above any of the conditions in subparts 1 and 2.

Subp. 5. Reasonable potential determination. The agency must apply the factors in Code of Federal Regulations, title 40, section 122.44, paragraph (d)(1)(ii), and use representative data to evaluate the WET of an effluent. The agency must apply the provisions in items A to C to evaluate the reasonable potential of the effluent to exceed a WQBEL.

A. The agency must determine the toxicity of the effluent using the provisions in subitems (1) to (3).

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1	(1) Acute toxicity values collected on the same day for each species must be
2	averaged to represent one daily value. The m. ximum of all daily values for the most
3	sensitive species tested must be used in the reasonable potential determinations.
4	(2) Chronic toxicity values collected within the same calendar month for each
5	species tested must be averaged to represent one monthly value. The maximum of all
6	monthly values for the most sensitive species tested must be used in the reasonable
7	potential determinations.
	(3) Toxicity values for missing endpoints must be estimated using a default
8	
9	acute-chronic ratio of 10 when data exist for either acute WET or chronic WET, but not
10	for both endpoints.
11	B. The WET of an effluent has the reasonable potential to cause or contribute to an
12	excursion above 1.0 TUa at the point of discharge or 0.3 TUa at the edge of the acute
13	mixing zone when a mixing zone demonstration has been approved under part
14	7052.0210 and when the effluent-specific information demonstrates that:
15	(1) For discharges to streams and rivers:
16	T(B)(Qd) > 1.0 TUa or 0.3 TUa, as applicable
17	
18	Qd + Qr
19 20	Milhomo
20 21	Where: T = Maximum acute toxicity of the effluent measured
22	under item A, subitem (1), in toxic units (TUa)
23	ander nem 1, subtrem (1), in tome and (1 Gu)
24	B = Multiplying factor from part 7052.0370,
25	converting the measured maximum value to a 95th
26	percentile value, except that a CV of 0.6 must
27	be used where less than ten individual WET tests
28	are available
29	
30	Qd = Effluent design flow
31	
32	Qr = Dilution flow allowed from the stream

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1	design flow specified in part 7052.0200,
2	subpart 3, item A, subitem (1), including
3	allowance for dilution from a mixing zone
4	demonstration under part 7052.0210; or
5	
6	(2) For discharges to lakes:
7	
8	T(B)(X) > 1.0 TUa or 0.3 TUa, as applicable
9	
10	Where:
11	
12	T = Maximum acute toxicity of the effluent
13	measured under item A, subitem (1), in
14	toxic units (TUa)
15	
16	B = Multiplying factor from part 7052.0370
17	converting the measured maximum value to a 95th
18	percentile value, except that a CV of 0.6 must be
19	used where less than ten individual WET tests
20	are available
21	
22	X = Dilution ratio established in the mixing
23	zone demonstration under part 7052.0210, subpart 2.
24	
25	C. The WET of an effluent has the reasonmere potential to cause or contribute to an
26	excursion above the chronic standard when the effluent-specific information
27	demonstrates that:
- 28	(1) For discharges to streams and rivers:
	(=) 1 of the the strength and the strength
29	
30	T(B)(Qd) > 1.0 TUc
31	
32	· Qd + Qr
33	
34	
35	Where:
36	T = Maximum chronic toxicity of the effluent
37	measured under item A, subitem (2), in toxic
38	units (TUc)

1 2 3 4 5 6	B = Multiplying factor from part 7052.0370, converting the measured maximum value to a 95th percentile value, except that a CV of 0.6 must be used where less than ten individual WET tests are available
7 8	Qd = Effluent design flow
9 10 11 12 13 14 15	Qr = Dilution flow allowed from the stream design flow specified in part 7052.0200, subpart 3, item A, subitem (2), including allowance for dilution from a mixing zone demonstration under part 7052.0210; or
16	(2) For discharges to lakes:
17	T(B)(X) > 1.0 TUc
18 19 20	Where:
21 22 23	T = Maximum chronic toxicity of the effluent measured under item A, subitem (2), in toxic units (TUc)
24 25 26 27 28 29	B = Multiplying factor from part 7052.0370 converting the measurec' maximum value to a 95th percentile value, except that a CV of 0.6 must be used where less than ten individual WET tests are available
30 31 32 33 34 35 36 37 38 39 40	X = 10, which represents a receiving water volume to effluent volume dilution ratio of 10 to 1, unless an alternative mixing zone demonstration is provided under part 7052.0210, subpart 2, that includes a dilution ratio other than 10 to 1 and results in a mixing zone that is no greater than the area of dilution ratio established in the demonstration.
41	Subp. 6. WQBELs for WET. The agency must establish WQBELs according to the
42	provisions in items A to D.

1	A. The acute WET limitation for discharges must be 1.0 TUa, applied as a daily
2	maximum, unless provisions for an acute mixing zone under part 7052.0210 have been
3	established that:
4	(1) result in compliance, at the edge of an agency-approved mixing zone for
5	streams and rivers, with the acute WET limitation calculated as follows:
	Acute WET limitation = $T (Qd + Qr)$
6 7	Active WET initiation = $\Gamma(Qd + QI)$
8	Qd
9	
10	Where:
11	T = 0.3 TUa
12	
13	Qd = Effluent design flow
14	On Change desired for a secret field in a set
15 16	Qr = Stream design flow specified in part 7052.0200, subpart 3, item A, subitem (1),
16 17	including allowance for dilution from a mixing
18	zone demonstration under part 7052.0210; or
19	2010 demonstration and f # 11 / 002/02/07 01
20	(2) result in compliance, at the edge of an agency-approved mixing zone for
21.	lakes, with the acute WET limitation calculated as follows:
22	Acute WET limitation = $T(X)$
23	Where:
24	
25	T = 0.3 TUa
. 26	
27	X = The dilution ratio established in the mixing
28	zone demonstration under part 7052.0210, subpart
29	2.
30	
31	B. The chronic WET limitation for discharges to streams and rivers, applied as a
32	monthly average, must be calculated as follows:
33	Chronic WET limitation = $T (Qd + Qr)$
34	
35	Qd

36

1	Where:
2	$T = 10 \text{ TU}_{0}$
3	~ - 1.0 TUc
4	
5	Qd = Effluent design flow
6	
7	Qr = Stream design flow specified in part
8	7052.0200, subpart 3, item A, subitem (2),
9	including allowance for dilution from a mixing
10	zone demonstration under part 7052.0210.
11	
12	C. The chronic WET limitation for discharges to lakes, applied as a monthly
13	average, must be calculated as follows:
14	Chronic WET limitation = $T(X)$
15	
16	Where:
17	
18	T = 1.0 TUc
19	
20	X = 10, which represents a receiving water
21	volume to effluent volume dilution ratio of
22	10 to 1, unless an alternative mixing zone
23	demonstration is provided under part 7052.0210,
24	subpart 2, that includes a dilution ratio other
25	than 10 to 1 and results in a mixing zone that
26	is no greater than the area of discharge-induced
27	mixing, in which case X equals the dilution ratio
28	established in the demonstration.
29	complica in the demonstration.
30	D. The agency must establish, on an individual permit basis, a monitoring
31	frequency to evaluate compliance with WET limitations.